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ATTENTION: APPLICATION BRANCH

Sir:

Transmitted herewith for filing is the patent application of

Inventor(s): TSUNG-HUI HUANG

For: A HEAD BELT OF HEAD MAGNIFYING GLASS

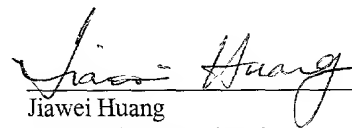
Enclosed are:

- (X) Specification in () pages.
- (X) () sheets of drawings.
- (X) Recordation Form Cover sheet with () page assignment.
- (X) A certified copy of (CHINA) Patent Application No. 98 2 07451.4 dated 09-29-1998.
- (X) **SIGNED** declaration and power of attorney.
- (X) Return prepaid postcard.

#### CLAIMS AS FILED

| FOR  | NUMBER<br>FILED         | NUMBER<br>EXTRA | RATE  | FEE          |
|--|-------------------------|-----------------|-------|--------------|
| Basic Fee  |                         |                 | \$380 | \$380        |
| Total Claims   | 4 - 20 = 0              | ×               | \$9   | \$0          |
| Independent Claims   | 1 - 3 = 0               | ×               | \$39  | \$0          |
| If application contains any multiple dependent claims(s), then add |                         |                 | \$130 | \$0          |
| <b>For a large entity:</b>   | <b>TOTAL FILING FEE</b> |                 |       |              |
| <b>For a small entity:</b>   | <b>TOTAL FILING FEE</b> |                 |       | <b>\$380</b> |

- (X) A check in the amount of \$380 to cover the filing fee is enclosed.
- (X) A check in the amount of \$40 to cover the assignment recording fee.
- (X) The commissioner is authorized to charge any additional necessary fee to Account No. 50-0710. A duplicate copy of this sheet is enclosed.

  
Jiawei Huang  
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P-7512

Applicant or Patentee: **TSUNG-HUI HUANG**Attorney's Docket No.: **TIPT0002**

Application or Patent No.:

Page 1

Filed or Issued:

Title: **A HEAD BELT OF HEAD MAGNIFYING GLASS****VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL-ENTITY STATUS**

I, the undersigned, do hereby declare that:

☒ I am the owner or an official of the small business concern identified below:NAME OF CONCERN: **GEM OPTICAL CO., LTD**ADDRESS OF CONCERN: **NO. 45, LANE 81, SEC. 3, CHUNG SHAN RD., TAI PING CITY, TAICHUNG  
HSIEN, TAIWAN, R.O.C.**

I further declare that the above-identified small business concern qualifies as a small business concern as defined in 13 CFR 121.12, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees to the United States Patent and Trademark Office, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both. I further declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention described in the patent or application identified above.

The individual, concern or organization identified above has not assigned, granted, conveyed or licensed, and is under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(c).

If the rights held by the above-identified individual, concern or organization are not exclusive, each individual, concern or organization having rights in the invention are identified below. Each such individual, concern or organization must file separate verified statements averring to their status as small entities.

**\*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27).**

FULL NAME:

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FULL NAME:

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I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small-entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: **Tsung-Hui Huang**

TITLE OF PERSON (if not an owner or individual):

ADDRESS OF PERSON SIGNING: **No. 45, Lane 81, Sec. 3, Chung Shan Rd., Tai Ping City  
Taichung Hsien, Taiwan, R.O.C.**SIGNATURE: **TSUNG-HUI HUANG**DATE: **AUG. 16, 1999**

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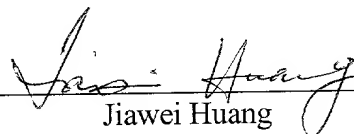
**CERTIFICATE OF MAILING BY "EXPRESS MAIL"**

**Docket No.** : TIPT0002  
**Inventor(s)** : TSUNG-HUI HUANG  
**For** : A HEAD BELT OF HEAD MAGNIFYING GLASS  
**"Express Mail"**  
**Mailing Label No.** : EL355856745US  
**Date of Deposit** : August 18, 1999

I hereby certify that the accompanying

Transmittal in Duplicate; Specification in 5 pages; 7 sheet of drawings; **SIGNED** Declaration and Power of Attorney in 2 pages; Recordation Form Cover Sheet and Assignment in 2 pages; Certified Small Entity Statement in 1 pages; Certified Copy of CHINA Application No. 98 2 07451.4 filed on September 28, 1998; Checks for Filing Fee(s); Return Prepaid Postcard

are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and are addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

  
Jiawei Huang

# **A HEAD BELT OF HEAD MAGNIFYING GLASS**

## **ABSTRACT**

As head belt of head magnifying glass including a first and a second head belt set up at both sides of the fixer of magnifying glass. More than one buttoning holes are made on the first head belt vertically. A buttoning seat stretches out from the second head belt. A vacancy forms between said buttoning seat and the second head belt. A through hole is made at the inner end of the buttoning seat and a movable plate is fixed on the buttoning seat. The movable plate is pivoted by its both sides at near the middle part of the lateral sides of buttoning seat. A clamping key is established at the end where the movable plate corresponds with the through hole of buttoning seat and a spring plate is built at the other end. It is easy adjustable by inserting the first head in the above mentioned vacancy and buttoning up the clamping key with the buttoning hole and durable ness of head belt is thus achieved.

4 Claims      7 Drawing Sheets

## **A HEAD BELT OF HEAD MAGNIFYING GLASS**

### **BACKGROUND OF THE INVENTION**

The present invention relates to a head belt of head magnifying glass, and more particularly an easy adjustable and more durable head belt construction.

With the quick development of industries in recent years, every industry gradually tends to the practical development of reducing volume and enabling all-around functions of products. Almost any industry such as precise electronic industry, precise mould manufacturing industry, seal carving industry, composing and typing industry, precise spring, etc, all develops towards said direction without exception. In the course of manufacturing of those precise industries workers have to use head magnifying glass to magnify work piece for easy processing. Fig 1 shows a conventional head magnifying glass 10. A first head belt 20 and a second head belt 30 stretch backward from each side of fixer 102 for fixing magnifying glass 101, respectively. A female sticking belt 201 is sewed up on the inner side of the first head belt 20, while a male sticking belt 301 is sewed up on the outer side of the second head belt 30. When the male sticking belt 301 is made sticking to the female sticking belt 201, the first belt 20 and the second head belt 30 get fixed together, forming a ring putting fast on the user's head and enabling him to process the work piece which is magnified by the magnifying glass 101 on fixer 102. However, because of the different sizes of head of users as well as sticking up and/or coming off of male sticking belt 301 and female sticking belt 201 while putting on and/or taking off the magnifying glass, villus on male sticking belt 301 and female sticking belt 201 will come off and become less through repeated use, leading to low sticking effect. As a result, the first head belt 20 and the second head belt 30 can not

combine closely and thus lose their effect. For this, the user has to get a new head belt for replacement, and surely, this is disadvantageous in use.

## SUMMARY OF THE INVENTION

The major object of the invention is to provide a modified head belt of head magnifying glass to resolve the problem stated above. A movable plate set up on the buttoning hole made on the first head belt. It separates from the buttoning hole due to lever movement while pressing its one end, and it remains buttoned up well with the buttoning hole when it is not pressed down. Through repeated for many times combining and separating the movable plate and buttoning hole, nice buttoning is still kept so that convenient adjustment and longer duration of head belt are achieved.

The object of the invention is carried out in the following way:

A head belt of head magnifying glass, wherein a first head belt and a second head belt stretch backward from either of both sides of the fixer of head magnifying glass respectively wherein:

More than on buttoning vertical holes are made at certain space along said first head belt:

A stretching out buttoning seat is set up at certain place of said second head belt with a vacancy forming between said buttoning seat and the second head belt; a through hole is made at the inner end of buttoning seat and a movable plate is fixed on the buttoning seat; said movable plate is pivoted by the part near the middle of each side of buttoning seat; a clamping key is established at one end of movable plate corresponding the through hole of buttoning seat and a spring plate is set up at the other end of movable plate.

This allows the first head belt to insert in the vacancy between the second head belt and the buttoning seat, and by utilizing the clamping key of movable plate penetrating the through hole of buttoning seat to button up in the buttoning hole of the first head belt, the first and second head belts are closely combined. As said movable plate is pivoted at the buttoning seat, when its outer end is pressed down, it is able to revolve with the pivoted part as its fulcrum to have the end where the clamping key is placed rise so that it separates from the buttoning hole of the first head belt and allows the first head belt to adjust its position along the second head belt or separate from the second head belt. Thus the object of easy adjustment and durable effect is acquired.

There is a binding sleeve on the second head belt used to bind the end of the first head belt.

A pivot axle is built on each side of the movable plate near its middle and said pivot axle is inserted in the pivot hole on each side of the buttoning seat to make the movable plate combined with the buttoning seat.

Said first head belt and said second head belt are respectively pivoted at the end of one of the two sides of the fixer of head magnifying glass.

The beneficial effect of adopting the above –mentioned technical scheme is apparent:

Since said head magnifying is in the shape of a ring by buttoning up the first and second head belts, it allows adjusting the size of combined ring according to the needs of users and/or separating them from each other. Besides, as the first and second head belts of said head belt are inked together by means of a buttoning movable plate, such construction will keep very nice buttoning effect after many times of separating and buttoning. So that the efficacy of elongating the duration of use of the head belt is achieved.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

Fig 1 is a chart showing the 3-dimentional view of a conventional head magnifying glass;

Fig2 is a chart showing the exploded view of the present invention;

Fig3 is a schematic diagram showing the composition view of the invention;

Fig 4 is a schematic diagram showing the use of the invention;

Fig 5 is schematic diagram (1) showing the operation of the invention;

Fig 6 is schematic diagram (2) showing the operation of the invention;

Fig 7 is schematic diagram (3) showing the operation of the invention;

## **DENOTATION OF MARKING NUMBERS:**

Conventional head magnifying glass part:

10 – head magnifying glass      101 – magnifying glass

102—fixer      20 the first head belt

201—female sticking belt      30—the second head belt

301—male sticking belt

The present invention part:

1—head magnifying glass      2—the first head belt

21—buttoning hole      11—fixer

31—bing sleeve      3—the second head belt

41—pivot hole      4—buttoning seat

5—vacancy      42—through hole

61—pivot axle      6—movable plate

62—spring plate      62—clamping key

## **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

Now the present invention will be clarified in detail by embodiments thereof shown in the attached drawings.

In fig 2, a first head belt 2 and a second head belt 3 are set up respectively on the backward end of one of the two sides of fixer 11 of head magnifying glass 1 of the invention, wherein

Said first head belt 2 is pivoted at the end of one side of the fixer 11 of head magnifying glass and more than one vertical buttoning holes 21 are made at certain space on said first head belt 2.

Said second head belt is pivoted at the end of the other side of fixer 11 of head magnifying glass and a buttoning seat 4 stretches out from proper part of the end to leave a vacancy 5 ( See Fig 3) forming between saidn buttoning seat 4 and the second head belt 3; a pivot hole 41 is made at the middle of each side of buttoning seat 4 and a through hole 42 is set up at the inner end of buttoning hole 42. Besides, on said buttoning seat 4 is fixed a movable plate 6 and on each side of said movable plate 6 corresponding pivot hole 41 of buttoning seat is set up a pivot axle 61 respectively. A clamping key 62 is established on the end of movable plate 6 corresponding through hole 42 of buttoning seat 4 and on the other end of the movable plate 6 is set up a spring plate 63. Again, there is a binding sleeve 32 on said second head belt 3 to bind the end of the first head belt while buttoning up with the second head belt.

In fig 3, while assembling, pivot axle 61 is put into the pivot hole 41 of buttoning seat 4 to enable movable plate 6 to conduct lever movement with said pivot axle 61 as fulcrum. When the end of movable plate 6, where spring plate 63 is set up, is pressed, one end of movable plate 6 moves downward by the pressure of spring plate 63 and the other end, where clamping key 62 is placed, turns upwards due to lever movement. Whereas, when the end, where spring plate lies, is not pressed, the other end, where there is spring plate 63, returns to its normal position by utilizing release of elasticity of spring plate 63, and at this time, the other end, where clamping key 62 exists, of movable plate 6 moves downward to achieve the object of lever movement.

In Fig 4, when the first head belt 2 is inserted in the vacancy 5 between the second head belt 3 and buttoning seat 4, by utilizing buttoning up clamping key 62 of movable plate 6 and buttoning hole 21 of the first head belt 2, the first head belt 2 and the second head belt 3 are combined to form a ring for sleeving user's head 12. It is seen from fig. 5 that in order to adjust the size of ring formed by the first head belt 2 and second head belt 3 to fit user's head, the end with spring plate 63 of said movable plate 6 is pressed down to allow movable plate 6 go conduct lever movement to turn up the other end with clamping key 62 so that the clamping key 62 will separate from the buttoning hole 21 of the first head belt 2. In fig.6, it is seen, after having been separated from buttoning by movable plate 6 of the second head belt 3, the first head belt is able to move freely in vacancy 5 to form an attended ring size by adjusting its combining position with the second head belt 3 or be pulled out from vacancy 5. It is seen from fig. 7 that when the first head belt 2 is adjusted to the proper position in vacancy 5, the user no longer presses on the end with spring plate 63 of movable plate 6 to allow said end of movable plate 6 to move upwards by means of the elasticity of spring plate, and meanwhile, movable plate 6 conducts lever movement to drive the other end with clamping key 62 to move downward to have it penetrate the through hole 42 of buttoning seat 4 and button in the buttoning hole 21 of the first head belt 2 so as to attain the object of adjusting the head ring size and/or combining or separating the two head belts.

To sum up, owing to the fact that the head belt of conventional head magnifying glass is stucked up by sticking belts, through times of coming off and sticking up in

use, the sticking effect between female and male sticking belts will turn worse and even lose stickness, and as a result, the ring size of head belt can not only be fixed so that the effect of usage will finally lose. Nevertheless, buttoning method is used in the present invention so it will keep nice buttoning effect after many times of separating and buttoning up in use. The head belt will be more durable for use and improve realistic effect compared with conventional ones. It is thereby that the inventor applies for a patent for the invention.

**I claim:**

1. A head belt of head magnifying glass, wherein a first head belt and a second head belt are set up at the backward ends of the two sides of the fixer of head magnifying glass, the specific features are:

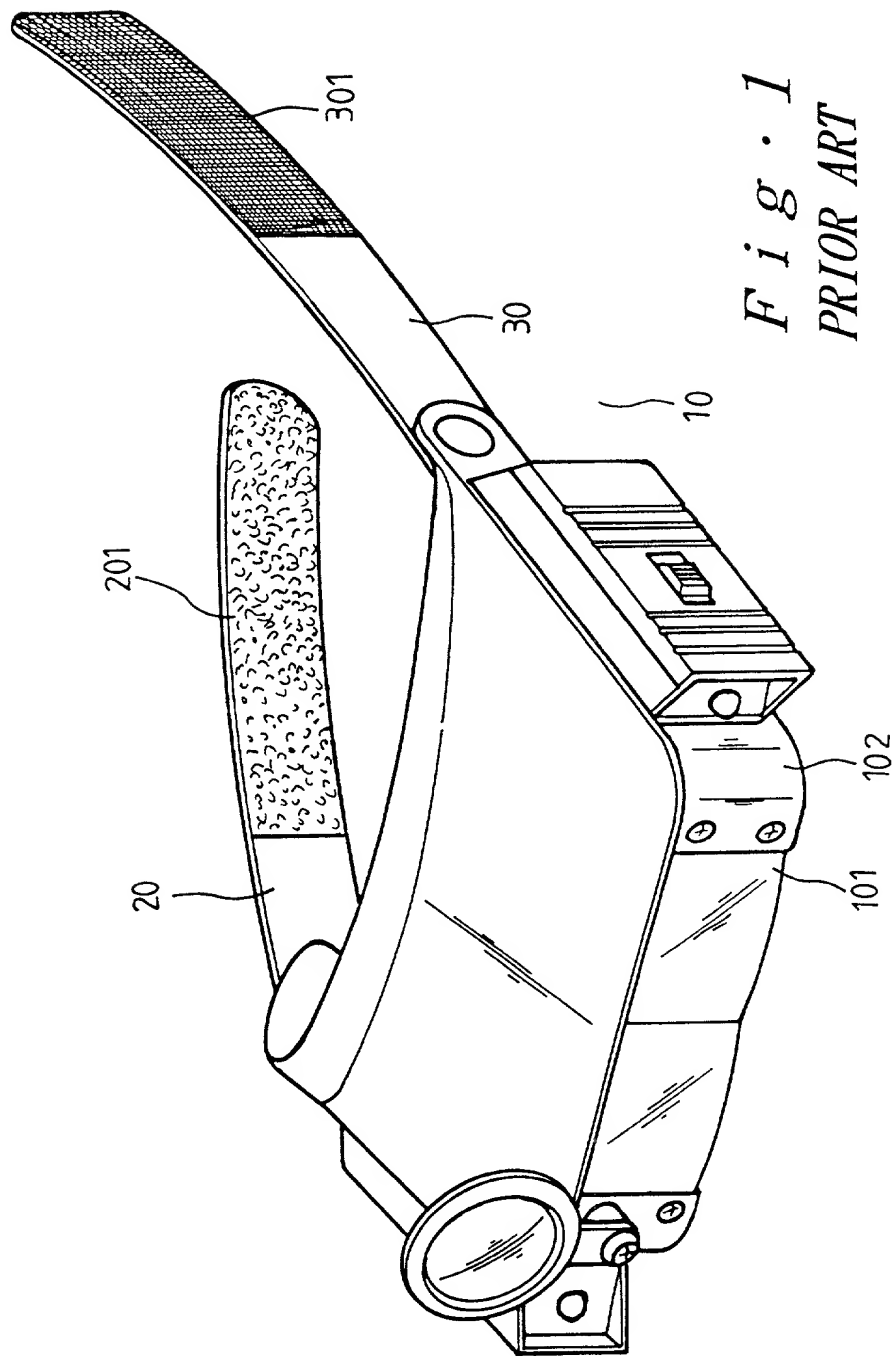
More than one vertical buttoning holes are made on said first head belt;

A buttoning seat stretches from a proper part of said second head belt and forms a vacancy between said buttoning seat and the second head belt. A through hole is made at the inner end of buttoning seat and a movable plate is fixed on the buttoning seat. Again, said movable plate is pivoted at the middle part of both sides of buttoning seat with its two sides and at a position near the middle part. A clamping key is set up at the end of movable plate corresponding the through hole of buttoning seat and a spring plate is established at the other end of movable plate;

The mentioned first head belt is inserted into the vacancy between the second head belt and the buttoning seat, and the clamping key of movable plate penetrates the through hole of buttoning seat and further buttons up in the buttoning hole of the first head belt to have the first and second head belt combined fast.

2. The head belt of head magnifying glass according to Claim 1 is characterized by : there is a binding sleeve on the second head belt used to bind up the first head belt.
3. The head belt of head magnifying glass according to Claim 1 is characterized by : pivot axle is set up on each side of said movable plate near its mid part respectively, and said pivot axle is put in the pivoting hole made on the lateral side of buttoning seat to have the movable plate combined with the buttoning seat.
4. The head belt of head magnifying glass according to Claim 1 is characterized by: both of the first and the second head belts are pivoted at the end of both sides of the fixer of head magnifying glass.





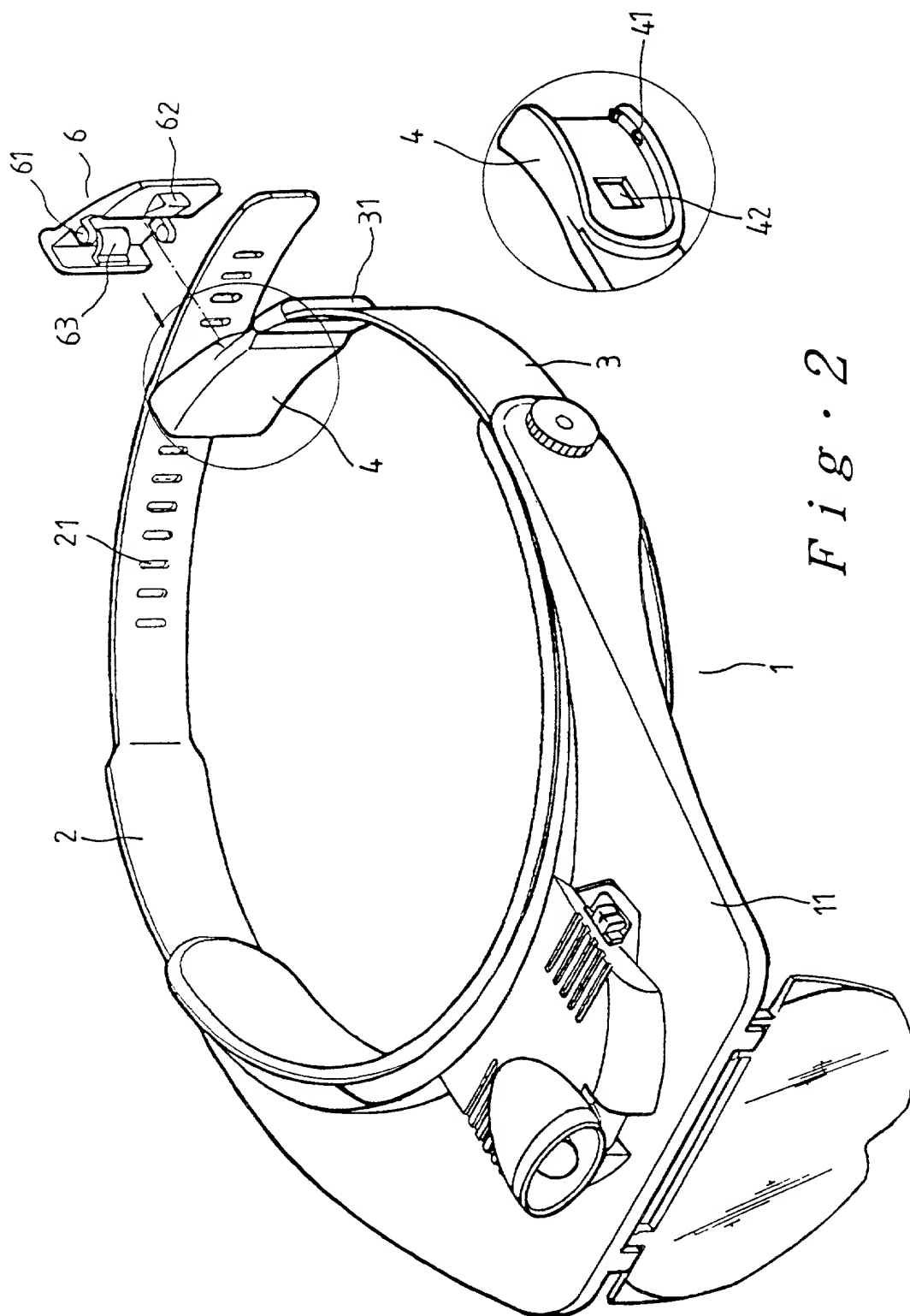


Fig. 2

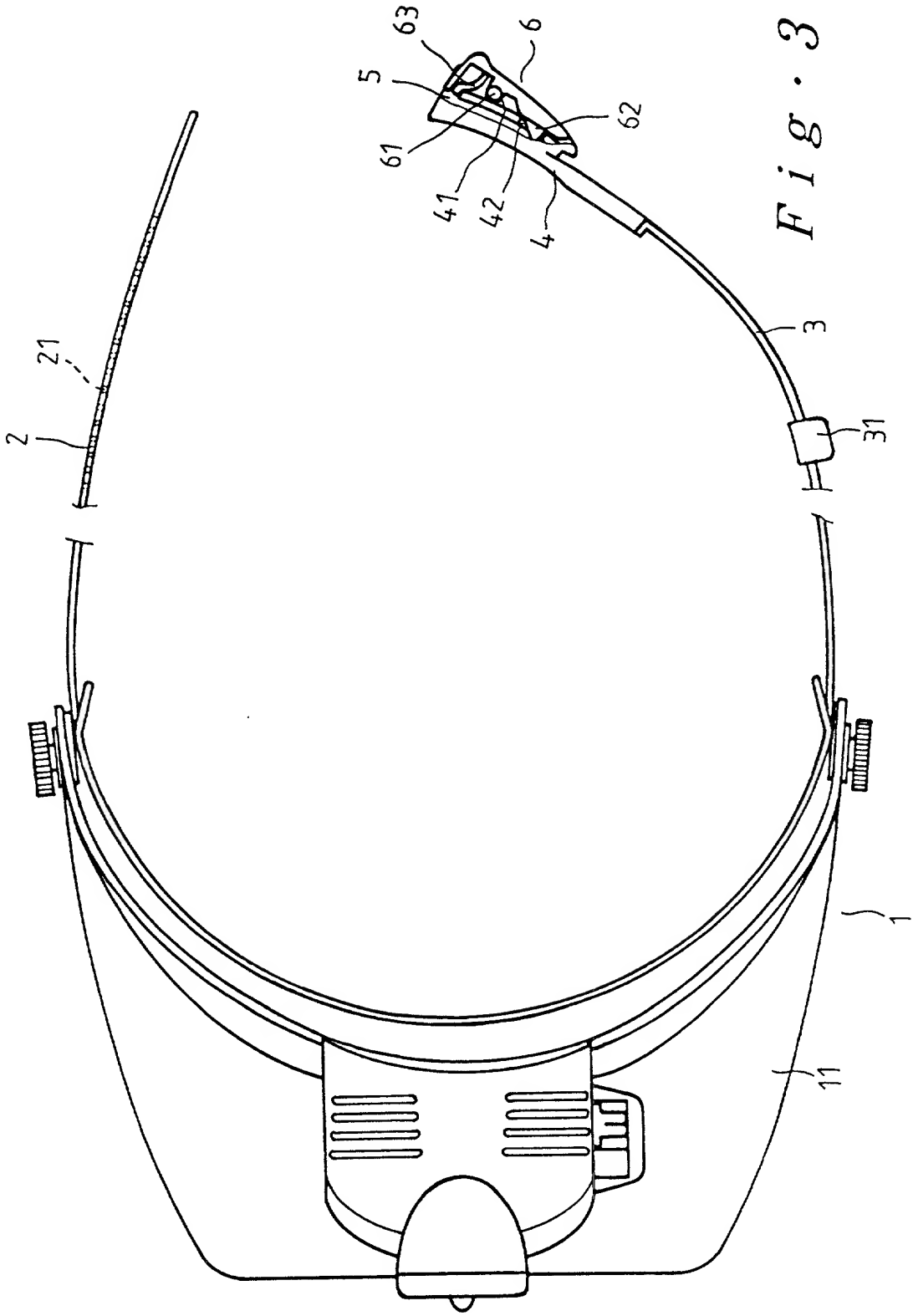


Fig. 3

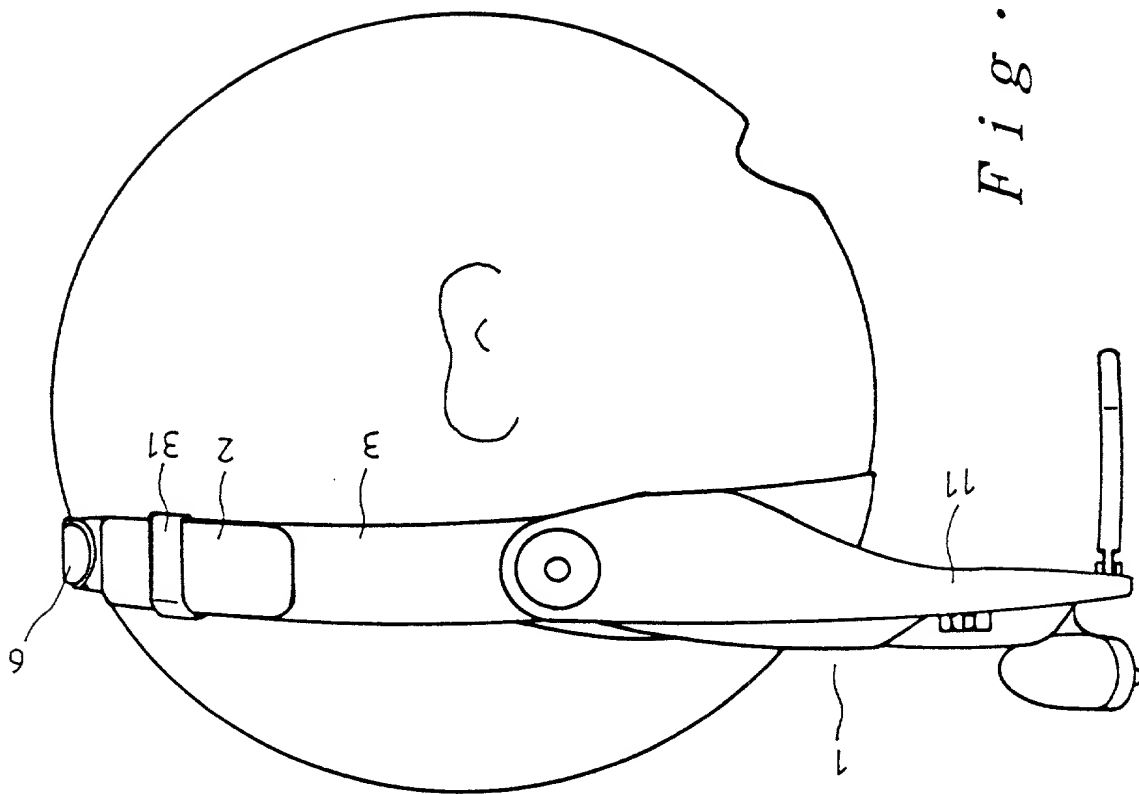


Fig. 4

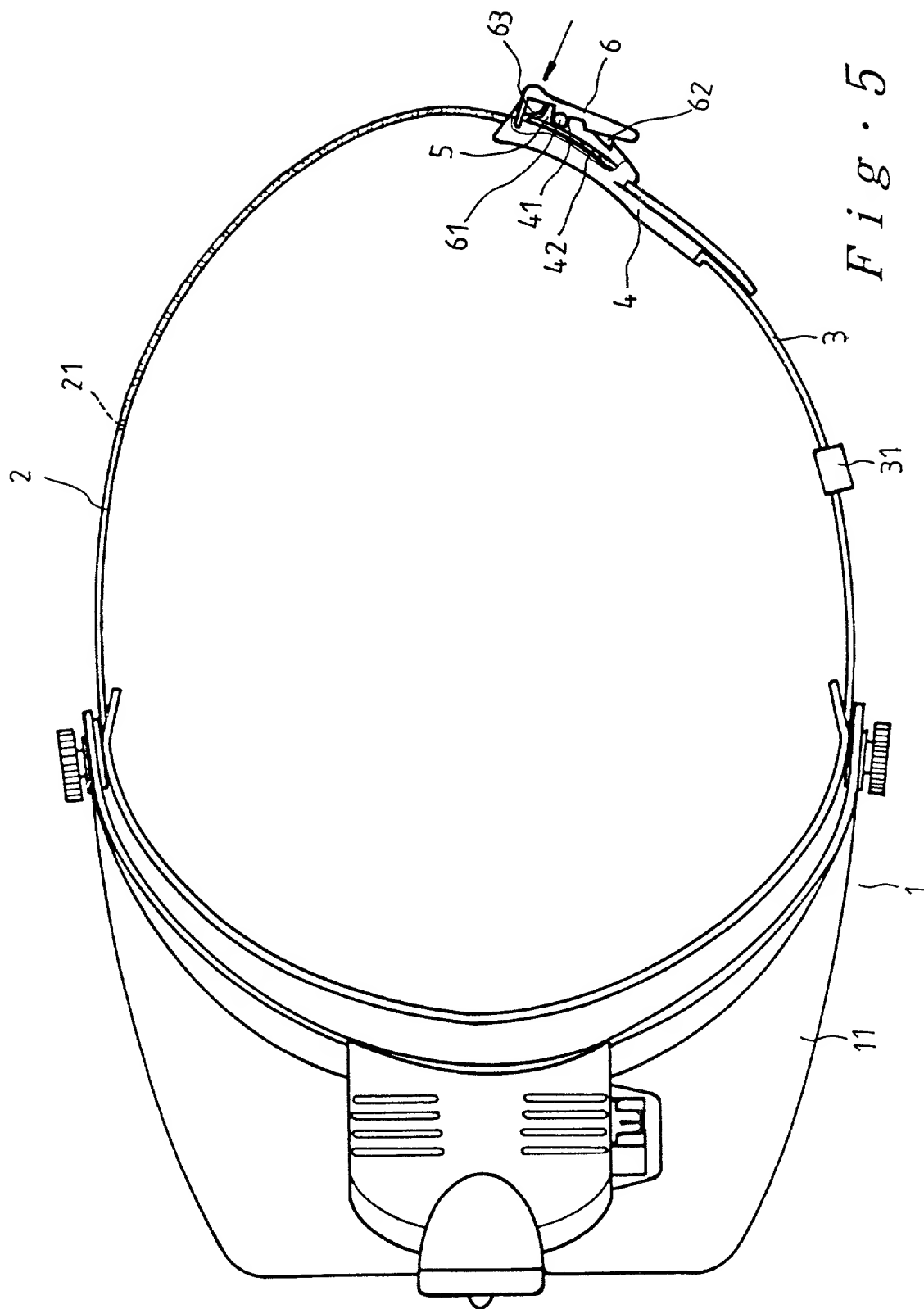


Fig. 5

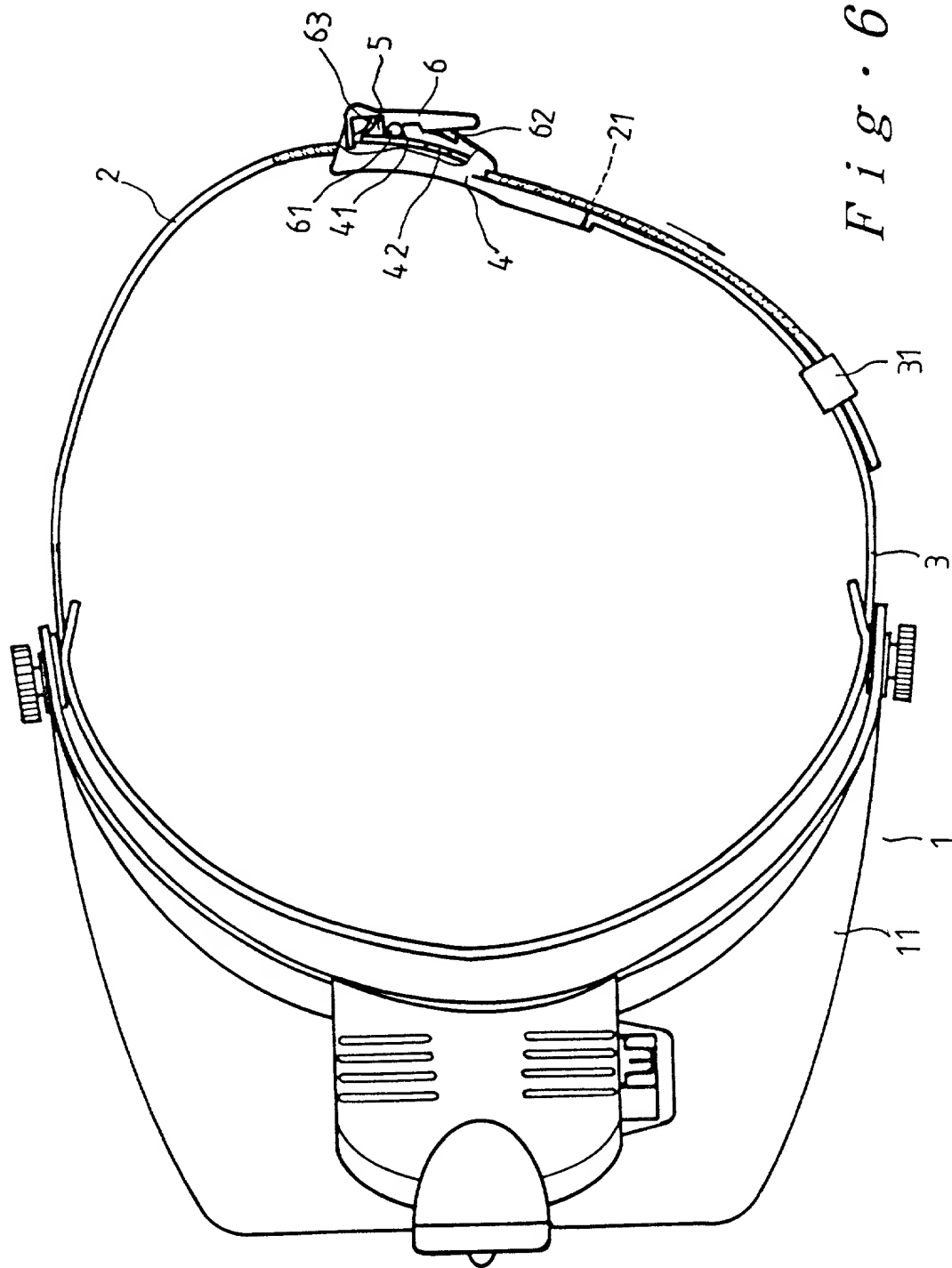
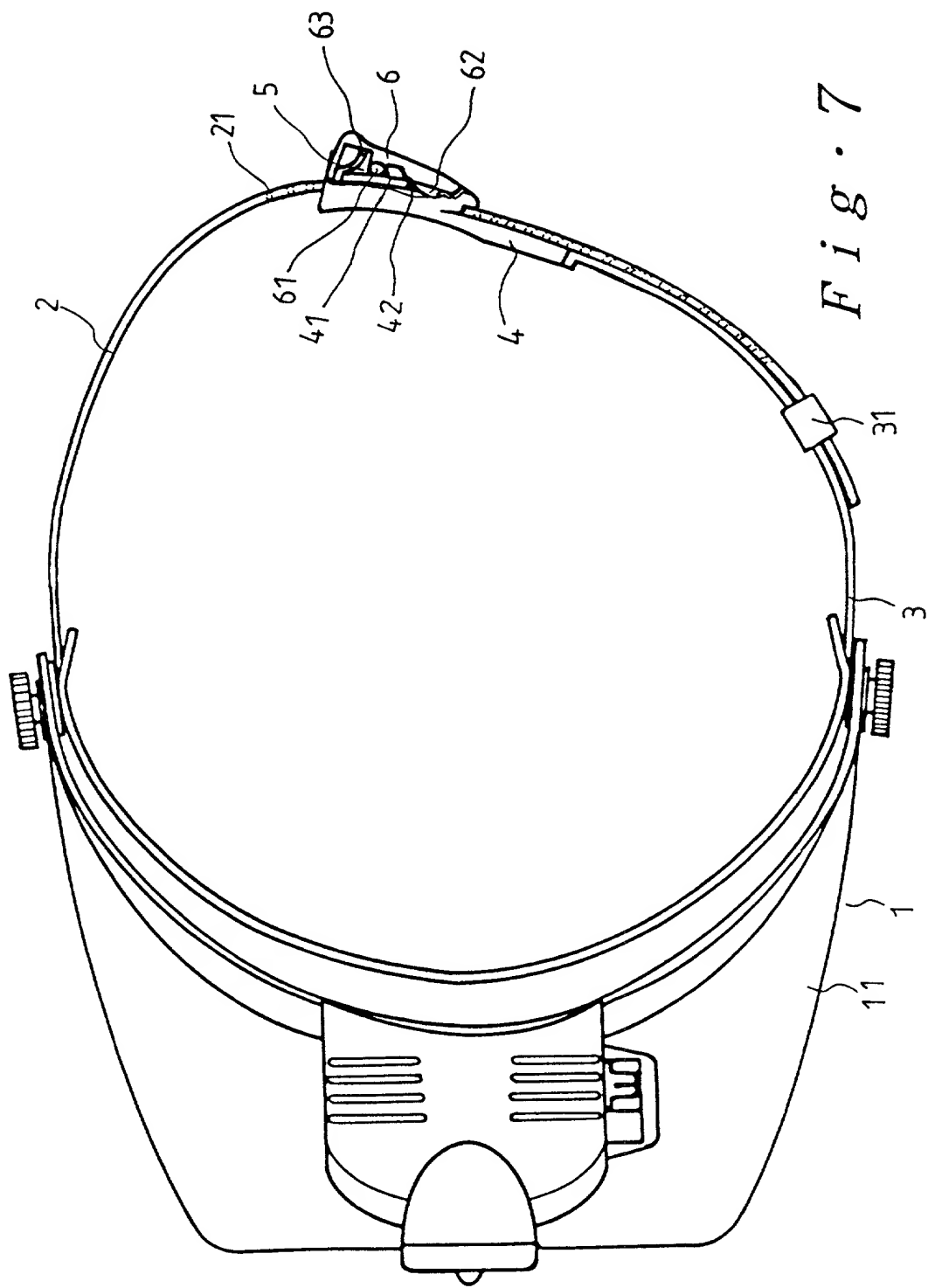


Fig. 6



**DECLARATION AND POWER OF ATTORNEY - USA PATENT APPLICATION**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am an original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

A HEAD BELT OF HEAD MAGNIFYING GLASS

the specification of which

  X   is attached

       was filed on            as Application Serial No. and was amended on           .

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above;

I acknowledge the duty to disclose information which is material to the patentability as defined in Title 37, Code of Federal Regulations, §1.56;

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

**PRIOR FOREIGN APPLICATION(S):**

| Country | Application Number | Date Filed<br>(month/date/year) | Priority Claimed |
|---------|--------------------|---------------------------------|------------------|
| China   | 98 2 07451.4       | 1998 09 28                      | Yes              |
|         |                    |                                 |                  |

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

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**DECLARATION AND POWER OF ATTORNEY CONTINUED**

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful, false statements may jeopardize the validity of the application or any patent issued thereon.

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Inventor's signature TSUNG-HUI HUANG Date JUN. 08. 1999

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Inventor's signature \_\_\_\_\_ Date

Residence:

Citizenship:

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Full name of the third joint inventor (if any):

Inventor's signature \_\_\_\_\_ Date

Residence:

Citizenship:

Post Office Address:

Full name of the fourth joint inventor (if any):

Inventor's signature \_\_\_\_\_ Date

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Full name of the fifth joint inventor (if any):

Inventor's signature \_\_\_\_\_ Date

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Full name of the sixth joint inventor (if any):

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